



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/612,176

07/08/2000

Thomas L. Ritzdorf

291958117US

7779

25096

7590

12/20/2002

PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER

SMITH, ZANDRA V

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,176

Applicant(s)

RITZDORF ET AL.

Examiner

Zandra V. Smith

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-26 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 10-13, 15-18 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 3-9, 14 and 19-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on September 30, 2002 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 09/612898 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Objections

Claims 15-16 are objected to because of the following informalities: there is no antecedent for "said first processing tool". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 2877

Claims 1, 13, 15-18, and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by *Akimoto et al. (6,004,047)*.

As to **claim 1, 13, 17, and 27**, Akimoto discloses a photoresist processing system, comprising:

an in-line metrology unit having a space for receiving a workpiece for measuring a condition of a first layer of the workpiece and generating a condition signal;

a control connected to the metrology unit;

multiple process units providing space to receive the workpiece and perform material application processes, wherein a condition signal from the metrology unit influences process conditions (col. 6, lines 1-20 and col. 7, line 58-col. 8, line 10); and

a transport unit to receive the workpiece from one of the process units and the metrology unit and move the workpiece to another process unit (col. 6, lines 30-42 and col. 8, lines 15-20).

As to **claims 15-16**, Akimoto discloses everything claimed, as applied above, in addition the workpieces are processed in one processing tool and then other processing tools.

As to **claims 18 and 29**, Akimoto discloses everything claimed, as applied above, in addition an electrochemical deposition unit is provided (col. 6, lines 1-8).

As to **claim 28**, Akimoto discloses everything claimed, as applied above, in addition a housing is provided (fig. 1, item 20).

As to **claim 30**, Akimoto discloses everything claimed, as applied above, in addition a transport unit is provided (col. 6, lines 8-15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Akimoto et al.* (6,004,047) in view of *Ushijima* (5,393,624).

As to **claim 2**, Akimoto discloses everything claimed, as applied above, with the exception of a non-compliance unit, however to do so is well known as taught by Ushijima. Ushijima discloses a system for manufacturing a semi-conductor device that includes a non-compliance unit (col. 10, lines 34-56) and a transport signal-connected to a control, wherein a condition signal from a metrology unit causes the transport to transfer the workpiece to the non-compliance unit. It would have been obvious to one having ordinary skill in the art at the time of invention to include a non-compliance unit and its control to improve throughput.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Akimoto et al.* (6,004,047) in view of *Mack* (5,363,171).

As to **claims 10 and 11**, Akimoto discloses everything claimed, as applied above, with the exception of a photoresist exposure tool and the first layer comprising a photoresist layer, the thickness of which is to be measured, however to do so is well known as taught by Mack. Mack discloses a photolithography exposure tool and in-situ photoresist measurement system that includes a photoresist exposure tool and a thickness measurement of the photoresist layer (col. 3,

Art Unit: 2877

lines 49-55 and col. 5, lines 1-2). It would have been obvious to one having ordinary skill in the art at the time of invention to include photoresist exposure tool and a thickness measurement to control the thickness of the photoresist layer.

As to **claim 12**, Akimoto and Mack discloses everything claimed, as applied above, in addition Mack discloses the need to measure critical dimensions of the pattern on the substrate (col. 4, lines 16-30). It would have been obvious to one having ordinary skill in the art at the time of invention to measure pattern dimensions to determine the exposure for substrate production.

Allowable Subject Matter

Claims 23-26 are allowable over the prior art of record.

Claims 3-9, 14, and 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render a seed layer enhancement unit or an electroplating reactor.

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2877

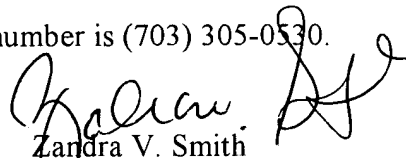
Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (703) 305-7776.

The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703)308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0530.


Zandra V. Smith
Primary Examiner
Art Unit 2877

December 16, 2002